PRACTICAL HOME ECONOMICS

A MAGAZINE FOR HOME ECONOMICS TEACHERS AND BUSINESS WOMEN
Covering Home Economics Education, Domestic Art, Hygiene, Food and Nutrition

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Making the Most of This Issue

EACH issue of PRACTICAL HOME ECONOMICS is planned to meet a diversity of needs and to give suggestions and help especially to the high school teacher. In order that you may make the most of the time you spend with PRACTICAL HOME ECONOMICS we are giving a little summary of the outstanding articles, in this issue. By glancing over it you may know at once which you want to give preference to. Are you interested in--

Curricula Building? ONE of the most vital questions before home economics teachers today is the formulation of a home economics program or curriculum that will fit in with the philosophies of present day education. Those who were fortunate enough to hear Dr. James E. Russell, dean emeritus of Teachers College, speaking along these lines at the conference of Supervisors and Teachers of Home Economics at Boston on July 1st, will long remember his pertinent, interesting and valuable suggestions and criticisms of conditions as they are and as they may be. In the elementary and secondary schools supervisors and teachers are hard at work trying to arrive at some solution of the problem. In this issue we feel we are fortunate in being able to give you the first of a series of articles on the subject written by Clara E. Youngs, Supervisor of home economics in the public schools of Ann Arbor, Michigan. Many of you heard Miss Youngs' talk at the meeting in Boston just referred to; many others know her and the work she is doing, and we feel sure that all who read "A Philosophy Of Public School Home Economics" will find meat for thought and the beginning of a diet they will be glad to continue in November!

Nutrition Experiment? THE word "experiment" has a fascinating sound, especially to junior or senior high school students who possess an overwhelming curiosity that can so often be turned to good account! In fact we all like to know the "why's and wherefore's" but appreciate them so much more if they are presented in a concrete, practical form, rather than in mere words. Nutritional experiments for demonstration purposes can be carried on with comparatively little expense, and will do more to stimulate interest in proper eating habits and correct dietary and health procedures than all the mere lectures that could be given. Margaret House Irwin (I understand that the Irwin was acquired this summer!) has told how these can be successfully conducted. A list of places where supplies of various sorts may be bought is included, as that seems to be one question that is asked over and over again. This article is also the first of a series by the same author, written especially for use of high school students and teachers. As reference material or for class discussion we are sure you will benefit by the information they will give you. Next month's article has the cheerful title "Chasing Down A Vitamin"—fine sport for the cold winter months!

Marketing? MARKETING classes are probably in full swing by now, and thoughts of Hallowe'en festivities are uppermost in most minds. October is the month of plenty, reaping the benefit of the harvest. The story in this issue by Mr. Brown tells of the foods that are most in season and provides many suggestions for classroom use. Students might make visits to the local markets and see how many of the kinds and varieties of fruits and vegetables mentioned they can find; determine what their individual locality offers in the most abundance, study market and distribution conditions, growth of food products—whether home grown or brought from other sections. This information may well be brought together in a short paper to be divided into groups, one taking fruits, another vegetables, while a third looks into the meat, fish and poultry situation. It is by so tying up a subject with actual living conditions that it is brought alive and develops real meaning.

Extension Service? I AM sure that many of us do not realize the number of splendid projects that are being developed and carried through for farm women by the Extension workers in Home Economics. Quite recently we heard of the 4-H Basket Shoppe that is conducted by the women of Clay County, Alabama, and we asked Mrs. Rudd, who is County Home Demonstration Agent there, to tell you about it. Perhaps your locality offers the means for the development of some such enterprise that will prove the means of recreation, entertainment and profit to the women you are working with.

Sewing? SEWING or clothing classes will find the little story "From the Cotton Fields to Your Sewing Table" useful as reference or text material on the cotton industry. The picture showing the articles trimmed with bias tape should give some ideas for the Christmas season as well as for general class room projects. Assignments on the subjects of various sewing table supplies may offer ideas—how is sewing thread made? Sewing silk? Scissors? What is the history of thimbles? What can you find about the history of the needle and the pin? What is the history of sewing machine? These are a few of the subjects that come to mind, but they are indicative of the idea and will surely stimulate interest in the use of such accessories and necessities.

Plays? ARE you often hard put to find a suitable vehicle for use when your home economics class has to take charge of the auditorium program? The little play written by Laura Dunlap of Portland, Oregon, may be just what you are looking for. It is simple, requires little scenery and not much rehearsing, so it should fit into the needs of many. Why not have your own class try a hand at writing some sort of a skit? Or if you have already done so and produced it, why not send it on to us so that others may also benefit by it?

Poster reproduced by courtesy of the American Institute of Baking

Practical Home Economics

A Philosophy for Public School Home Economics

By Clara E. Youngs

Supervisor of Home Economics, Ann Arbor Public Schools, Ann Arbor, Michigan

At a recent conference for the discussion of present trends in home economics education, a speaker made this very significant statement. "One of the biggest troubles with home economics teaching in our public schools is that we are not settled on a philosophy."*

This challenge should stimulate home economics teachers to some definite action. Just what do we believe in regard to home economics as it is taught in the public schools? Are we able to satisfactorily answer the frequent contention that we are impractical; that the results of our work do not justify the expenditures of time and money; that home economics in high schools is on the "down grade"?

It is imperative that leaders and teachers of home economics arm themselves with some very clear and positive statements of their beliefs to meet this flood of criticism. That they have sincere confidence in the educational value of their work is without question. Just how and where their work best fits into the educational program is a matter concerning which there is a great variance of opinion and uncertainty of conviction. It may not be necessary or desirable that all agree upon one philosophy, but it is essential that every thinking teacher try to arrive at some conclusions, some foundational platform upon which she can build the structure of her work.

A curriculum for social studies has just been published which, in its introduction, offers the following "Educational Creed".†

We believe: That EDUCATION is living.

That living implies growing.

That growing means the continuous re-creation of the individual through experience.

That the method of education is experiencing.

That experience which is educative in the best sense of the word produces at each stage of life a more completely integrated personality.

That the end of education is found in the present as well as in the future.

As an educational philosophy for the home economics teacher, this ought to be very acceptable, and seems to be a particularly well formulated statement of principles upon which much home economics teaching has been done. For our purpose here, it serves well as a starting point for some further statements of specific ideas regarding the special function of home economics in public school education.

Education means living in adjustment to environment.

The home is an important unit of the environment of the large majority of individuals.

Some training in home economics should be a fundamental part of the general education of all persons, and as such, should be made available to all.

As a general education subject, intelligent and appreciative attitude toward home values and home living, is the main objective of home economics education. This attitude is acquired through experiences real and vicarious directly related to home living.

The statement that at least some public school home economics should be of a general education nature, and made available to all, may evoke this question. Would it not be more advisable to bend our efforts to adequately training a few girls to be really efficient home makers, rather than to give a superficial course to a larger number of students? There are two answers to this question: first, there are comparatively few girls of high school age who are conscious of needing or willing to accept homemaking training for the future, at the sacrifice of other immediate interests and needs. Secondly, this general education course does not need to be superficial.

Let us consider the interests of our average high school girl. What is she planning to do after leaving high school? Her first interest is in her immediate future. A survey of the field tells us that an increasingly large number are going to continue with futher education. The rapidly growing number of women in colleges proves this. There are nearly five times as many women in colleges now as there were twenty years ago; in fact, the number has almost doubled in the last ten years. These girls must necessarily spend the greater part of their high school time doing college preparatory work. Should their choice of a college preparatory course cut them off from home economics work because it cannot be fitted into their program? Should we urge girls not to prepare for college in order to take more home economics? Or, should we work toward planning such home economics as can be included in a college preparatory program?

Another very large group of high school girls are those who must prepare in high school for some remunerative work immediately after graduation. Because commercial work can be prepared for fairly successfully in high school, it is probably the most popular choice for girls of this group. The girl who majors in the commercial curriculum has time for only a few electives. Must she be satisfied with one foods course or one clothing course, or perhaps omit them altogether, or should some more comprehensive unit be planned for her which will fit into her commercial curriculum? If we plan the bulk of our high school work in home economics for those girls who can take it as a major, the large majority of our girls are going to get only the hit or miss unit that can be inserted into their already full program, or none at all.

*Dr. Annie R. Dyer at the Fourth National Conference of Supervisors and Teachers of Home Economics, Boston, July, 1929.

†Social Studies in the Public Schools of Ann Arbor, Michigan. Published by Board of Education, Ann Arbor, Michigan, July, 1929.

Foundational or general education courses in home economics, planned for girls of all groups must be organized around a few fundamental principles. They must recognize their aim as a general education aim, and not a vocational one. They must consume less of the girl's time than many of our former laboratory courses. They must be recognized by the whole administration as of equal value with other regular school subjects, and be worthy of such recognition. They must ultimately become required like other fundamental subjects. They might well be paralleled with courses for boys.

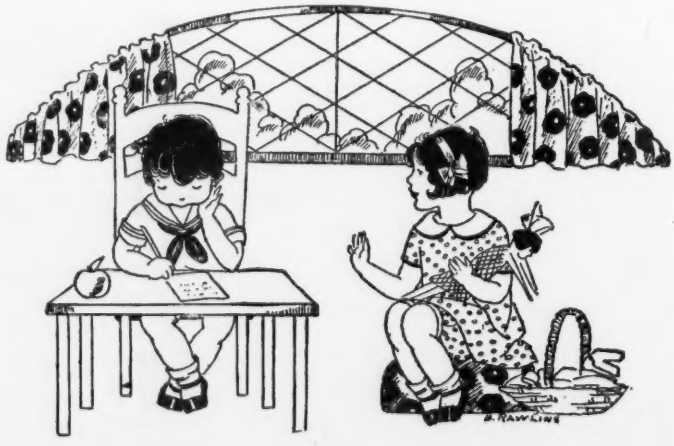
It has been stated that the main objective of such courses should be the growth of an intelligent and appreciative attitude toward home values and home relationships: a "home conscious" attitude. Emphasis upon this objective, rather than upon skill in housekeeping, means a difference in method of attack. Much effort has been spent training for housekeeping skills, with the hope that proper attitudes would result as indirect outcomes. Unfortunately, this does not always follow. It is true that the woman who loves and values home, will likely endeavor to make her home of high standard and try to become a good housekeeper, but housekeeping training alone does not inculcate appreciation of home. In fact, overpressure on such training may make housekeeping an irksome task, like the proverbial little girl who learned to sew a fine seam, but at the same time learned to despise sewing, and never regained any interest in what might have become for her a fascinating art.

The following illustration may serve to demonstrate what is meant by using a different method of attack in order to gain appreciation. In a unit of home sanitation there is the problem of learning to clean the refrigerator. With the simple objective of learning how to clean the refrigerator, the student is given directions as to how she should proceed. The first time she does it, the job is not well done. Corners are neglected. The drain pipe is not thoroughly cleaned. The work is inspected, criticized and repeated. The second attempt is better but still not entirely satisfactory. The job is a disagreeable one and why should so much trouble be taken to sterilize pipes so long as they look clean. Pride or fear of criticism finally gets the desired results, but unless there is always someone to inspect the work, will a high standard continue to prevail? The worker does not necessarily appreciate the value of a clean refrigerator.

In contrast, another teacher begins with a study of bacteria; what they are, the conditions for their existence and the results of bacterial growth. What are some of the places where conditions are favorable for bacterial growth? How can such growth be prevented? Some discussion of the structure and use of the refrigerator leads to the conclusion that a carefully kept refrigerator offers an excellent place for bacteria to produce undesirable results. The student then works out her own rules for cleaning and proceeds to try them out. Several trials to overcome awkwardness of procedure may be necessary but when this is mastered we can be fairly certain that good work will be done. To want a clean refrigerator and to appreciate a clean refrigerator because she knows why a clean refrigerator is desirable, is real education. To learn to clean a refrigerator so that it will pass the inspection of mother, teacher or employer, is slavery to a task.

It would not be fair to argue for more of the general education type of home economics teaching, and fail to acknowledge the value of the vocational type, or in any way underestimate the importance of acquiring housekeeping skills. It is probably true that there is a group of girls for whom a major course in home economics would be the most valuable use of high school time that could be made. These are not necessarily the girls who are too stupid or too poor or too unambitious to go to college, nor are they the ones who because of inability in the academic field are more or less pushed into a field to try out their success in "manual work." As yet we have no basis for choice of this group except the interest of the girl herself. For the girl who does so choose, we should be ready to offer something very worth while, a curriculum of really outstanding value to compete with those other interests previously mentioned, college and earning power. It is true that an earning capacity may result from certain lines of home economics training. Where specific remunerative jobs in a community offer an outlet for high school trained girls, special vocational courses in that field are desirable. Without a definite demand for a particular line of work, such vocational courses are hardly justified, and in no case should they be confused with home economics of the general education type.

The philosophy here stated is presented only as a suggestion, and not with any contention that it is the only solution of the problem which confronts public school home economics. If it seems to stimulate others to some definite thinking along the lines discussed here, it will have increased its value.



Sammy's English Lesson

By Winifred Stuart Gibbs

"I have an essay now to write,
And so I'm very busy—quite,"
Said Sammy to his loyal twin,
"If only I could once begin."

"What can I write about?" he said,
With tossings of his tumbled head.
"I know a theme that's very good:
Just write," said Sue, "about our food.

"Tell of the meals that make us strong,
And keep us well the whole day long:
So we can work and play and run
From early morn to set of sun."

Next day young Sam was very proud,
When, in a voice quite clear and loud,
The English teacher said that he
Wrote very well, 'twas plain to see.

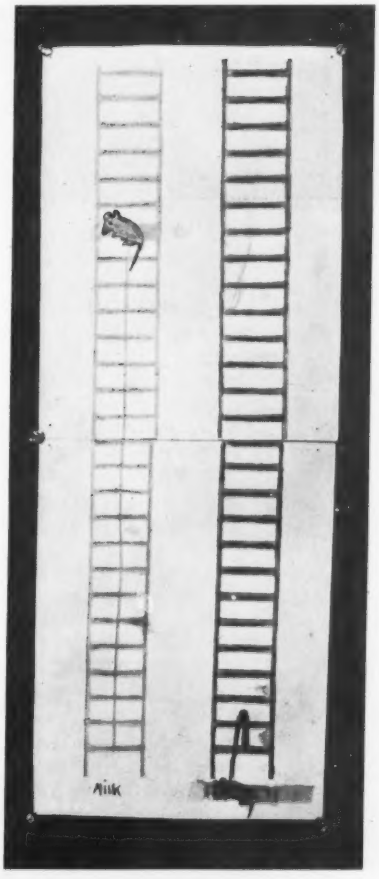
Conducting Nutrition Experiments for Demonstration Purposes

By Margaret House Irwin

Research Assistant, Foods and Nutrition Department, Iowa State College, Ames, Iowa

"SEEING is believing" is an adage that has a sound, psychological basis. No amount of talk, no unusual gift of persuasive power is quite as effective an argument as a good illustration. The teacher of nutrition often meets the problem of convincing the student that diet has as great an effect upon health as she says it does. The human body is so adjustable that a partially deficient diet does not produce immediate and startling results. Though a deficient diet is insidious in its action, its results are none the less positive. Minor symptoms of poor nutrition which are manifested as physical inefficiency rather than as a definite disease are often disregarded. These symptoms of under nutrition should be considered seriously as one can not repeatedly disobey the laws of Nature without paying the price she exacts.

The effects of a poor diet can be seen more quickly if the diet is tried out on an animal of shorter life span than man. White rats make very satisfactory animals for this purpose and have been used for demonstration experiments in the Purnell Laboratory at Iowa State College. The effectiveness of these experiments in arousing interest and belief in good nutrition is unquestioned. Even very young children get the point of a well controlled demonstration experiment. One four year old in our nursery school became so interested in some of our "lettuce rats," and so thoroughly won over to lettuce as a growth factor that he went home and insisted that his mother, father and three months old baby sister eat lettuce at every meal—breakfast included.



Weight ladders used in place of graphs for the younger children. The rat on the left drank milk every day whereas his brother did not.
(Kindness of Ellen Kleppe)

There is, however, a certain element of danger in such experiments being conducted by an inexperienced person. Such a person may not realize the necessity of taking into account all of the factors of the diet and may draw hasty, unwarranted conclusions. It was thought that a detailed description of the methods of conducting a demonstration feeding experiment might enable others to benefit by our experience.

The Animals

No animal meets the needs of the nutrition worker quite so admirably as does the rat. Albino rats are small, easily caged, and are willing to cooperate to the extent of eating almost any human food. The life span of a rat is about one thirtieth of that of man, a three year old rat corresponding in age to a man of some ninety odd summers. Certain food requirements have been found to stand in approximately the same ratio and we sometimes write the equation, 30x a rat = a man.

The following figures give some conception of the normal life cycle of a rat.

Length of Life.....	3 years
Period of most rapid growth	Weaning to 5 months
Age of sexual maturity	3 months
Gestation period....	3 weeks
Nursing period.....	3-4 weeks
Number of young in a litter.....	4-15, average 8
Weight at birth....	4-5 grams
Weight at weaning..	40-50 grams
Weight at 5 months	Males 260 grams Females 190 grams

Differences in the growth rates of rats will show up more definitely during the period of most rapid growth. For this reason rats are started on an experiment

"Cracker Rat" *Weight, 63 grams.* *"Lettuce Rat"* *Weight, 148 grams.*
(Kindness of Ellen Kleppe)

Crackers and Water *Weight, 56 grams.* *Crackers and Milk* *Weight, 158 grams.*
(Kindness of Ellen Kleppe)

Weighing day comes once each week. The "lettuce rat" has gained ten grams.

Clean-up day in the laboratory.

at approximately 28 days of age (wt. 40-60 grams) and the experiment is usually continued for eight weeks. The length of a demonstration experiment depends somewhat upon the diet used, extremely deficient diets giving more immediate results than partially deficient ones.

Only animals of approximately the same age and weight should be used for a comparison of two dietary constituents. It is better to use litter mates if possible. Since males grow much more rapidly than females the animals must be of the same sex unless several animals are to be used for each dietary variation. In this case, equal numbers of both sexes should be assigned to each diet.

The following descriptions of a well nourished animal and a poorly nourished animal are quoted from an article by Nina Simmonds (1):

"A well nourished animal exhibits up to 18 months of age the appearance of full vigor, plumpness of muscles, bright prominent eyes, a clean smooth skin. The tail is clean and free from desquamative changes. The coat appears to consist of hairs of approximately uniform length and is glossy and well kept. They permit themselves to be handled without being annoyed and do not attempt to escape when the cage is opened. Females are fertile and raise about six litters. The young should weigh about 40 grams at 25 days."

A Poorly Nourished Animal:

"The skin on the ears and feet begins to lose its waxy and healthy surface and appears harsh, dry and not infrequently scaly. The coat of the animal appears to differentiate into hairs of different lengths. They are nervous and irritable and will dart out of the cage as soon as it is opened."

A colony of stock rats is maintained in this laboratory so that we may know the exact nutritional history of every experimental animal. Such a procedure is impractical and unnecessary unless one is attempting to do scientific research. There are a number of animal supply houses that sell rats, guinea pigs, and rabbits at reasonable rates. We have purchased satisfactory animals from W. A. Smith, Durant, Wisconsin, and from the Albino Supply Company, Germantown, Philadelphia, Pennsylvania.

Equipment

Cages

The cages used in this laboratory are all metal cages of two types, round individual cages in which the experimental animals are kept, and the larger oblong cages in which several animals are housed. These cages can be purchased from the A. B. Hendryx and Company, New Haven, Connecticut, and come equipped with food cups, water fountains, tin record holders, and pans. The round cages are approximately eight inches tall and nine inches in diameter. They have raised screen bottoms that not only prevent access to the excreta but keep the rats from tearing up the paper toweling on the bottom of the pans.

The cages illustrated are convenient but rather expensive ($3.50 to

Clever students can make their own cages.

Cages and Accessories.

$5.00). If only one or two demonstration experiments are to be performed satisfactory cages can be made for about 50 cents a piece. Tin snippers, pinchers, a soldering iron and a little ingenuity are the only necessary tools. The first step is the purchasing of an enameled milk pan such as the one in the picture. Next cut an 8 inch strip of quarter inch wire screen and shape it to fit the bottom of the pan. This forms the walls of a cylindrical cage. Then cut circular pieces for the lid and the raised screen bottom. The floor of the cage must be wired to the walls of the cage about one inch above the lower edge. It can be made firm with a little solder. The scratchy edges of the cut screen can also be smoothed off with solder or a thin band of galvanized iron can be soldered on at the top and bottom of the cage. The picture shows a cage in the process of construction.

Food Cups and Water Fountains

Empty cold cream jars make excellent food cups. The water fountain in the picture can be concocted from a six ounce medicine bottle and piece of glass tubing. The tubing should be bent at an angle of approximately 65 degrees, sealed at one end and a hole blown on the upper surface of the same end. A piece of rubber tubing serves as a one holed rubber stopper and holds the tube securely in the neck of the bottle. The entire fountain can then be turned upside down and wired to the outside of the cage. The sealed end of the tube must stick into the cage so that the rats can drink out of the hole.

Scales

The scales used in this laboratory are Chatillon Dietary Scales of 500 gram capacity and are equipped with a movable dial which assists in rating the weights of pans, food cups, etc. The rats will usually allow themselves to be weighed directly upon the scale pan, but occasionally one has to be shut up in a can before his weight can be determined. These scales can be purchased from the Cherry-Durrell Company, Cedar Rapids, Iowa.

Records

All of the rats in this laboratory are weighed at least once each week and their weights recorded and plotted. The animals are observed carefully and any deviations from the normal noted on the records. For very young children who can not understand a graph, weight ladders have been used with success. These ladders were made to scale and the children watched the rats climb up or down as their weights increased or decreased.

The record sheets illustrated below can be purchased from the Tribune Publishing Company, Ames, Iowa, No. 90922-J4 and No. 90922-I4. If only a few are needed they can be ruled or mimeographed to suit the individual requirements of the experiment.

Care

Contrary to the usual belief rats are neat, clean, and orderly in their habits. They wash their faces just as cats do and mother rats are often seen "licking" their young. If rats are given a chance, if their cages are kept scrupulously clean and the room in which they live properly ventilated, there is a gratifying absence of that so-called "ratty smell."

In our laboratory, all cages, food cups and water fountains are changed at least once every week, scrubbed in hot soapsuds, and sterilized with live steam. Before the sterilizer was purchased the cages were boiled in a wash boiler.

Paper toweling is kept in the bottom of each pan and the cage placed over it. The towels are changed daily, usually at the time the animal is fed.

Diets

The following very satisfactory basal diet for demonstration experiments has been worked out in this laboratory by Ellen Kleppe. (2)

Commercial casein	18
Cornstarch	63
Crisco	15
Complete salt mixture	4

Water to make a moderately soft dough. Bake in a shallow cake pan at 275° F. for ¾ hour. Cut in squares before and twice during the baking process.

Exp. Vitamin A in Tomato — No. ♂ 793

Date	Wt.	Food Out	Food Con.		Date	Wt.	Food Out	Food Con.		Date	Wt.	Food Out	Food Con.		Date	Wt.	Food Out	Food Con.	
11/25/28	36	188	6		24		195	9		21		190	10		18		169	12	
26		182	5		25		186	6		22		180	9		19		157	13	
27		177	4		26		180	8		23		171	11		20		190	10	
28		173	7		27		172	10		24		160	11		21		180	10	
29		166	8		28		162	12		25		149	10		22		170	12	
30		158	10		29		150	13 ← Ave. 9.7		26		195	10 ← Ave. 10.1		23		158	11 ← Ave 11.1	
12/1/28		145	9 ← Ave. 7.0		30	100	187	7 Tetters.		27	134	185	12		24	186	147	10	
2	44	170	8		31		180	10		28		173	13		25		195	10	
3		182	8		1/1/29		170	3 Opthalmia		29		160	10		26		185	11	
4		174	10		2	99	167	7 in R. Eye.		30		150	8		27		174	13	
5		164	10		3		160	5		31		190	9		28		161	11	
6		154	9		4		155	3 Opthalmia		2/1/29		181	10		3/1/29		150	10	
7		145	10		5		152	2 ← Ill. 5.2		2		171	11 ← Ave. 10.4		2		187	12 ← Ave. 11.0	
8		187	7 ← Ave. 8.8		6	98	150	4 → 2 gms		3	146	160	9		3	193	175		
9	67	180	11		7		146	5 Tomato		4		151	10		Killed. (8 weeks)				
10		169	10		8		192	8		5		188	8						
11		159	10		9		184	8		6		180	10						
12		149	10		10	105	176	6 Butter		7		170	12						
13		186	8		11		170	6		8		168	12						
14		178	8		12		164	8 ← Ave. 6.4		9		146	12 ← Ave 10.4						
15		170	10 ← Ave. 9.5		13	110	156	6		10	160	189	9		Ave food intake				
16	85	160	12		14		150	10 QK.		11		180	13		Depletion period. — 8.3 gm				
17		148	10		15		188	8		12		177	12		Experimental — 9.8 "				
18		192	12		16		180	9		13		165	12						
19		180	8		17		171	11		14		152	10						
20		172	7		18		160	10		15		142	11						
21		165	10		19		150	6 ← Ave 8.5		16		189	10 ← Ave. 11.0						
22		155	9 ← Ave. 9.7		20	124	144	10		17	172	179	10						
23	94	146	10																

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A typical record chart for an experimental animal showing daily food consumption.

Crackers made according to this method can be kept for months and will not become rancid. They are relished by the rats and when fed with water provide all the essentials of the diet except the vitamins. The commercial casein contains some vitamin which must be extracted if a truly scientific experiment is to be performed. The extraction is quite a task and is not necessary for demonstration work. The salt mixture was prepared according to the method of Osborne and Mendel (3). It can be purchased already prepared at the Harris Laboratories, Tuckahoe, New York. It is not feasible to prepare it unless a large number of experiments are to be run. With these crackers as a basal diet various vitamin containing foods can be fed as supplements. The differences in the growth and health of the rats will be some measure of the vitamin potency of the foodstuff under examination.

In one of our experiments we fed one rat crackers and water, and the other crackers, water and lettuce. After six weeks of the experiment marked differences in the weight, general health and alertness of the animal were observed. A similar experiment was performed using milk as the supplementary food.

In some of the more advanced food classes, it may be desired to show the specified diseases caused by a lack of various vitamins. The vitamin free diets used in this laboratory are as follows:

Vitamin A Free Diet:		
Vitamin A free casein (5)	18	Mix
Cornstarch	51	
Crisco	22	
Dried brewery yeast	5	
Salt mixture (3)	4	
Vitamin B Free Diet:		
Vitamin B free casein (5)	18	Mix
Cornstarch	50	
Butterfat	8	
Lard	18	
Salt mixture	4	
Cod liver oil	2	fed separately

The butterfat used in the vitamin B free diet must be prepared by melting butter at a low temperature (double boiler) and skimming off the clear yellow fat, thus separating the pure fat from the casein, salts and water present.

Vitamin C. Free Diet (6)		
Ground alfalfa	50	Mix together
White flour	50	
Whole ground oats ad libitum		
Vitamin D Free Diet (7)		
Yellow corn meal	76	Mix
Gluten flour	20	
Calcium carbonate	3	
Sodium chloride	1	
Stock Diet:		
Yellow corn meal	64	Mix
Linseed oil meal	16	
Casein	5	
Ground alfalfa	2	
Sodium chloride	.5	
Calcium carbonate	.5	
Yeast	2	
Wheat germ	10	
Fresh whole milk ad libitum		

Casein and calcium carbonate can be purchased from any chemical supply house such as Central Scientific Company, Chicago, Illinois. Dried brewery yeast can be purchased from The Northwestern Yeast Company, Chicago, Illinois and gluten flour from Rhines Company, Watertown, New York.

The experiments described above can be used for other purposes than the teaching of nutrition. Arithmetic or algebra problems involving food intake records and growth rates of rats may lend interest to the mathematics hour. Also, there are certain lessons in hygiene that can be learned from the rat as he is neat, clean, and inclined to sleep and eat regularly. Likewise, it will be observed that the well fed rats are calm, well poised, and good natured whereas the malnourished animals are nervous, irritable and restless. Indeed, the educational value of such experiments in public health work is worthy of careful consideration.

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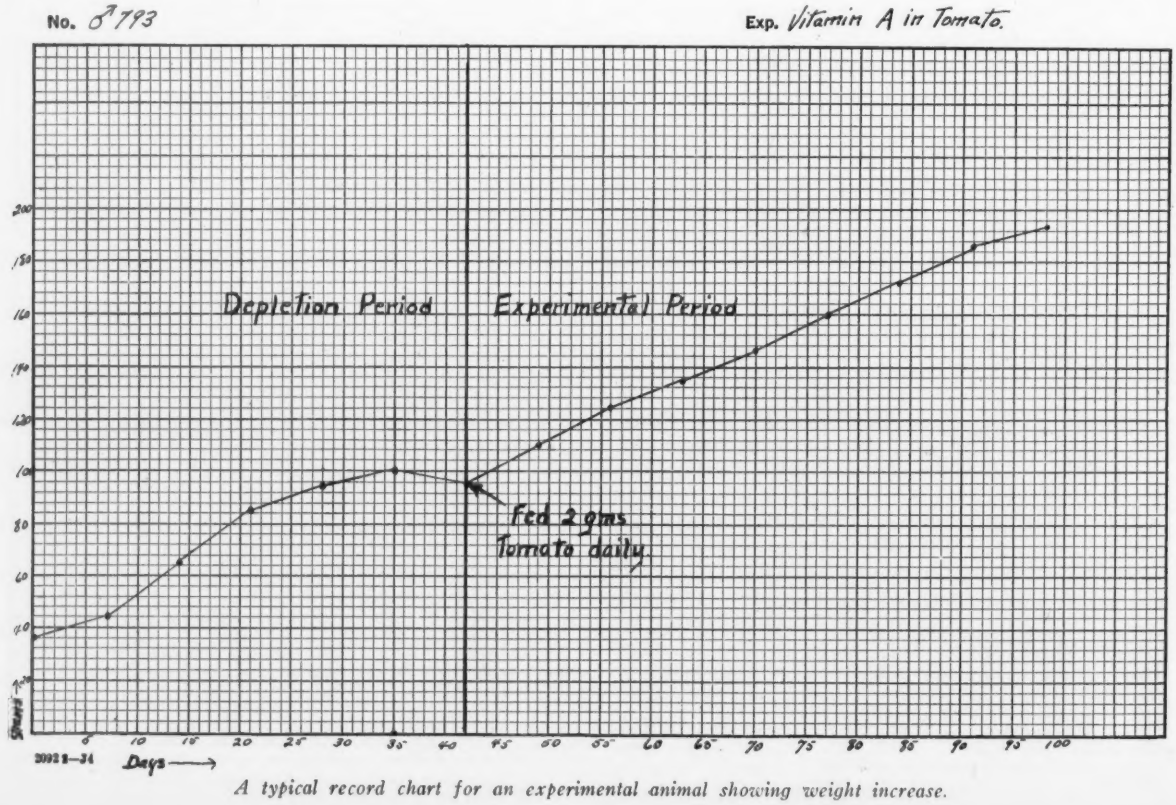

A typical record chart for an experimental animal showing weight increase.

Mid-Autumn Brings Abundant Fruits

Watch for Them When You Shop

By Colonel L. Brown

IF any one month were to be singled out as the best for fruits it would be October because it brings a profusion and variety of fruits unequalled at any other season. Quality too is pleasing. The mild days and cool nights of early autumn develop fruits that are full colored and sugar laden. Other seasonable food products there are to be sure—both from farm and sea—but fruits as a class compel the most attention at this season.

Just as fruits are the outstanding class of food products in mid-autumn so do grapes loom large in the fruit markets. During the French Revolution when a new calendar was devised October was named the "Month of Grapes" a designation that is still quite appropriate.

To get the most out of grape season one must recognize the difference between types and varieties. Most of the grapes found on the market belong in one of two distinct types, each of which in turn is subdivided into a large number of varieties.

The type of grape that is best known to most consumers is the Eastern, known pomologically as "Vitis labrusca." The other is the California type, which is practically identical with the Old World or "Vitis vinifera" grape. Eastern grapes can be readily distinguished from the California because the tender skin slips readily from the pulp but the seeds are firmly imbedded and cling tightly. California grapes are exactly the opposite having tough, tightly adhering skins but with seeds that separate readily from the pulp. Both types are excellent for table use but the Eastern are preferred for jam and jelly making. Most California grapes have a high sugar content and several varieties make the raisins of commerce. The California varieties also keep longer than the Eastern and do not have to be used so quickly.

The most important Eastern grape varieties now in season are Concords, Niagaras and Catawbas. The Concord is a blue-black variety of excellent flavor and more than 90 per cent of the grapes shipped to market from Eastern sections consist of this variety. It is the standard variety not only for eating as fresh fruit but for jams, jellies and unfermented grape juice. Next in importance is the Niagara, a large white variety that appeals to many. The Catawba is a red variety that is sometimes seen late in the season. In addition there are many varieties of importance only in limited areas.

—Grapes—Eastern Varieties; Concord, Niagara and Catawba. California Varieties; Thompson Seedless, Malagas, Tokays, Cornichons and Emperors.

Prunes—German and Italian.

Pomegranates *Persimmons*

Quinces *Crabapples*

Autumn Apples—Wealthys, McIntosh, Jonathans, Grimes Golden.

Autumn Pears—Seckel, Bosc, Comice, Sheldon, Kieffer, Duchess d'Angouleme.

Vegetables—Celery, Potatoes, Cabbage, Onions, Beets, Carrots, Pumpkins and Late Squashes.

Chickens—Broilers, Fryers, Roasters.

Lamb *Oysters*

California table varieties are more numerous. Possibly the most important is the Thompson Seedless, a small white variety with olive shaped berries. It is seedless or nearly so and has a mild sweetish flavor. This variety is also used extensively for raisins. Malagas are the next most important table variety and these likewise are white and mild flavored but the berries are larger and rounder. Tokays are one of the most popular table varieties at this season and are easily distinguishable by their large flame red, olive shaped berries. They have a rich spicy flavor, tough skins and a firm flesh which makes them excellent for salads. The Cornichon is a purplish black variety with long, soft berries but its flavor belies its handsome appearance. However, it adds color to the fruit bowl even though it does not delight every palate. The last variety of the California season—on the market from Thanksgiving to Christmas—is the Red Emperor, a fine flavored, long keeping variety.

In purchasing grapes several points need to be kept in mind. First of all make certain that the grapes you select are fully ripe, except possibly for jelly making. The color is a fair index to maturity because a white variety loses its grass green color and takes on an amber cast. Black grapes should be black and not reddish or purple. As grapes reach full maturity they soften perceptibly and this is a fair test of maturity although the safest method of all is to taste a sample. One serious defect common to all grapes is shattering—dropping easily from the stem—and it can generally be detected by picking up two or three bunches and giving them a gentle shake. Large berries are more important than large bunches and other things being equal large berried grapes of any variety are superior to the small berried ones. The compact bunch is favored as compared with the loose or straggly one. In purchasing large packages note whether the fruit in the bottom is sound as it usually spoils there first.

Fresh prunes are another seasonal fruit of special interest at this time. Many people fail to recognize the good qualities of this fruit and think only of the familiar dried fruit. As a matter of fact fresh prunes are so similar to plums that it is difficult to draw hard and fast lines between the two. The characteristics of prunes that make them distinct from plums are firm flesh, high sugar content and a pit which separates freely upon splitting open the fruit. The more important varieties are always blue black in color.

Two varieties predominate on the market, these being the German prune, a small, firm fleshed variety grown mostly in the East, and the Italian, a larger and slightly softer fleshed variety that is produced in many parts of the country but mostly in the Northwest. Neither of these varieties is very expensive during its season, possibly because so few consumers are acquainted with their good qualities.

Large fruit is preferable to small of the same variety but aside from that the chief considerations are soundness and maturity. Soundness is easy to determine from casual inspection and maturity is indicated by the firmness of the fruit—green or immature fruit being hard and fully ripe being soft. A peculiarity of fresh prunes is that they wrinkle around the stem when fully ripe and in contrast with practically every other fruit it is a favorable sign.

Those who have a flair for home made jellies should also bear in mind that in addition to grapes there are two first class jelly fruits now in flush season——quinces and crabapples. Jellymaking, apparently, is not so large a part of the average housewife's routine as formerly and for that reason quinces and crabapples can be purchased quite cheaply. As a rule these fruits are more abundant and cost less in October and early November than during September. There is seldom much difficulty in making selection of these fruits. They should not, of course, be overripe as the pectin content begins to decrease upon maturity, but otherwise there is little to choose. However, fruit for preserving whole should

be medium to large and free from blemishes.

Two of the minor fruits deserving of more attention because of their dessert possibilities are pomegranates and persimmons. The pomegranate is produced almost exclusively in California and the best specimens are of good size and have a bright pink or red color and a thin, fresh looking skin. When opened there should be an abundance of red pulp surrounding the seeds. Persimmons include both the native Southern fruit and the large cultivated Japanese varieties produced in California. The latter are much more expensive but rate high on the list of seasonable dessert fruit. All persimmons should be fully ripe else they are exceedingly astringent. When fully ripened the fruits are very soft; in fact, the large cultivated varieties should be soft enough so that they can be best eaten with a spoon. Both are handsome additions to the fruit bowl or basket and are well worth trying.

No list of the fruits in season is complete without mention of fall apples and pears. Although apples and pears are practically year round fruits nowadays and therefore have been discussed more fully in previous issues, they are highly important at this season.

A profusion of apple varieties are on the market during the mid-autumn season but the varieties differ somewhat in various parts of the country. The most widely distributed variety—and one of the best for all purposes—is the Jonathan, a medium sized red apple. Wealthy, McIntosh and Grimes Golden are three more excellent fall varieties. Then there are the less common but equally fine varieties which are more likely to be found in the country than in the city market—Belleflowers, Snowapples, Maiden Blush and Pound Sweets.

Pear varieties are likewise numerous with the following among the best in season: Seckel, a small, red russeted pear of the highest quality, excellent for dessert or for spicing; Bosc, a large, long necked bronze pear that is unexcelled for dessert or canning; Comice, a yellowish green dessert pear; Sheldon, a large green pear equally good for eating or canning; Duchess d' Angouleme, similar in its qualities to Sheldon, and Kieffer, good only for canning or conserves. This by no means exhausts the list of varieties but it does include those most likely to be encountered in a tour of the shops.

There is no dearth of vegetables at this season and it is difficult to single out a few and say that they are the particularly appropriate ones. Among those which are naturally abundant in October but which are obtainable throughout most of the year are potatoes, onions, cabbage, clery, beets and carrots.

Then there are pumpkins and late squashes which are essentially autumn products.

Potatoes are important because many families purchase their winter requirements during October. This season the crop is short and relatively high prices are likely to rule throughout fall and winter.

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bunched form with the tops on. In many instances a big premium is paid for the bunched product when equally good ones can be purchased with tops off at much lower prices. In the winter, of course, the tops denote freshness but at this season there is relatively little difference in freshness or quality between the two classes.

THE HOME AND THE VIRTUES—The home is the oldest unit of civilization. In it the mothers of ancient China taught their children politeness and obedience. In the home during the golden age of Greece, Athenians practiced wisdom, courage, temperance, and justice. Christian parents have taught faith, hope, and love. Modern life magnifies industry, service, and cooperation.

In these twelve virtues are the dreams of countless generations of the finest men and women the race has produced. These ideals represent accumulated wealth far beyond our material heritage. That they shall be kept bright in the lives of each new generation is the concern of all good people. The one institution that may most naturally build these virtues into attitudes and habits is the home. Let us cherish and strengthen it.

Pumpkins and squashes are in most demand from the middle of October until Thanksgiving and supplies are sent to market in quantity to meet this demand. Although both these vegetables have hard, tough rinds they are quite susceptible to decay and spoil easily if bruised or cut or the stems broken off. The winter squashes such as Hubbards and Marrows should have a hard tough skin that is difficult to puncture with the thumb nail. This indicates maturity and good keeping quality. Underripe specimens often cook thin and watery. Both pumpkins and squashes should be heavy in proportion to their size because the heavy specimens have thicker meat and smaller seed cavities.

The poultry supply increases steadily during late summer and early autumn and the next three or four months are the flush poultry season. During October spring chickens are perhaps the outstanding class of poultry. All three sizes—broilers, fryers and roasters—are of good quality and prices are about as moderate as they ever become. Practically all of the chickens now on the market are fresh killed and quality runs uniformly good. Regardless of size chickens should be plump, well fattened and of attractive appearance. Thin, rangy and skinny birds are not likely to be as tender nor as economical since the proportion of frame to meat is greater.

Considerable progress is being made in methods of preparing poultry for market and methods are being worked out for marketing drawn poultry. Although research work during the past two decades has demonstrated that poultry keeps better when undrawn the difficulties are being overcome and it is entirely possible that birds cleaned and ready to cook will be offered consumers within a short time. Ready cooked chickens packed in tins are also being marketed in considerable quantities. Practically all of the packers have United States Department of Agriculture inspectors in their plants and the birds are selected with unusual care. Needless to add canned chicken is a thoroughly "safe" product besides being a tasty one.

Lamb is one of the best meats for October both in point of quality and price. Larger quantities of lambs are marketed in the fall and prices usually decline somewhat. Also, at this season lamb is lamb—and not mutton.

Seafood begins to wane with the approach of cooler weather with one important exception. Oyster season begins in September, but it is usually October before the season is in full swing. This is one of the seafoods that is fairly constant in supply and the majority of dealers who spècialize in seafoods carry them in stock regularly throughout the fall and winter months. Prices do not fluctuate to any extent so the principal feature to watch is the quality of the oysters offered. Every precaution is used in shipping and it should be possible to obtain good oysters anywhere in the country. The methods under which they are retailed, however, depend to some extent on the strictness of local health departments. Being a perishable product retailers should use extreme care as a protection to their customers—and the health department should see that they do.

The ideal type of oyster is one that is plump, thick meated, firm and white. The mantles or gills should be thick. However, the small or dark meated are just as healthful. As a rule four or five year old oysters are marketed, as they are the most desirable sizes. The names given to oysters apply to the waters from which they are taken and their size rather than to variety or quality. Quality and not the name should be the deciding factor in purchasing these popular bivalves.

Home Economics Play for Auditorium

By Laura Dunlap

Teacher of Home Economics, Portland, Oregon

Time 5:30 p.m.

Characters — Grandmother, Father, Mother, Big Sister (Marie), Jane—the little sister, and Jack, the brother.

Scene—Living Room and Dining Room combined. Grandmother in rocker—knitting or darning. Little Sister Jane sitting on stool near Grandmother reading.

Enter Marie—explaining—

"Mother has just telephoned to say she is detained downtown and will come home with Daddy. Let us surprise her, Jane, and have dinner ready."

Grandmother—"I am sure you can do very nicely because your Mother always has her dinner planned ahead of time. She said this morning she was to have a meat pie made from yesterday's pot roast and that the apples were in a casserole ready for baking."

Jane—"O, Maria, may I set the table? I know just how."

Maria—"Yes, dear, and it will be easier for you if I show you the diagram I made at school. I will pin it here." (Has large poster of properly set place at table and pins it so audience can see it.) Jane sets table using linen and dishes required for serving of simple well-balanced menu. This menu may be given and explained to audience before the beginning of the play—giving cost and good points of food used.

Marie—"I know how to make the crust for the pie because I had that yesterday for a cooking lesson and it will be such a surprise for Mother."

Grandmother—"The spinach must be cooked to retain the minerals and vitamines."

Maria—"Yes, Grandmother, I know how to do that too. We had that in school a long time ago and I am going to make a lemon sauce for the apples—so you needn't help at all."

Grandmother—"I do declare, girls of today are taught the right and easy way to keep a family healthy and happy. If I had known that green vegetable and fruits were so necessary my John would have been a healthier man."

Jane—"See Grandmother, I have the knives on the right of the plate, the spoons on the right of the knives, (points to diagram and table) the forks on the left of plate, the napkin to left of fork, the water glass at tip of knife, the bread and butter plate above fork. (Said slowly and plainly.) When the coffee is served Maria will put it just above the spoons with the handle toward the right.

Enter Mother and Father.

Mother—"What a lovely surprise! My girls have made us very happy. This help will make it possible for us all to go to the concert and without being tired."

Enter brother Jack (hair neatly combed). Father helps Grandmother arise and both Jack and Father adjust chairs for Mother and Grandmother. All are seated. Grandmother at right of Father and brother at right of Mother. Maria at left of Father and Jane at left of Mother. Father is to serve the pie, spinach and noodles. Maria waits on the table when necessary, refilling water glasses—clearing table and placing dessert in front of mother to serve or bringing in dishes ready to place before each person. Sauce is passed.

Mother (With greater exclamation—You didn't make this lovely pie!! And the spinach is cooked so nicely!! Why Maria—how could you make this. I didn't have time today to tell you about it!"

Maria—"I made one in school yesterday and didn't tell you because I wanted it to be a surprise and to make it all by myself."

When dinner is started Jack appears very much in a hurry and says "Mother—why do I have to wait for dinner to be served. I promised Bill to play as soon as I could. May I be excused? I want to practice football."

Father—"No, Jack — Good football players must have first of all—good health. Eating the right food, properly prepared, and eating slowly are very necessary requisites."

Jane—"Besides Jack, you are being more mannerly when you eat slowly. Our domestic science teacher has given us a number of rules for good table manners and that is one of them."

Jack—"Mother, why were table rules made?"

Mother—"Table etiquette rules were made for three reasons—1. health, 2. consideration for others, and 3. convenience. Aren't those very good reasons?"

Father—"Let me demonstrate a few of the rules Jack." (The father can show so audience will see plainly several good table etiquette rules.)

Jack—"O, gee! I would rather eat everything any old way and play ball, but I want to be healthy so I guess you are right Dad."

Mother—"You have both done beautifully and Daddy and I are glad to take you with us to the concert.

Curtain

A Working-Girl's Supper Club

By Ethel J. Gans

Jewish Social Service Bureau, Chicago, Ill.

THIS club for working-girls in a sectarian family agency evolved from a school-girl's group who graduated or left school. They did not wish to discontinue their weekly meetings and asked if there were any evening groups which they could join. This crystallized the desire to develop in these future brides some of the qualifications for homemaking that would prevent the sad mistakes of their mothers, many of whom were known for their domestic discord and bad homemaking records.

With a nucleus of five, the Working-girls' Supper Club was organized.

The group now has a regular membership of twelve and meets on Monday evenings. The girls come directly from work and stay about three hours. Some of them are non-agency friends of members, who are most regular in attendance. Instruction is given in food values, correct cooking, attractive serving, short-cuts in housekeeping and some home-craft. Considerable time is spent in answering the girls' questions on personal food or health habits.

This year saw the introduction of a few lessons in Personal Hygiene, illustrated by a manikin of the female body. The girls listened open-mouthed, and their questions, apparently unanswered for years, poured forth. Their attitude was expressed in a letter one girl wrote her social worker: "Mrs. G.——— had us sit in a circle, and then she began one of the most interesting talks I ever heard. What I heard was all new to me. I never knew what she told us before . . . It was and will be a Red Letter Day in my life.

Although the prime purpose of the Club is instruction in foods, their preparation and eating (may have long-standing food prejudices), the recreational program is an important one for the additional knowledge of social conduct. Theatre parties are held twice a year with trips to flower shows, Art Institute, Field Museum and Home Expositions in between.

In spite of the variation of mental equipment and background there is a fine spirit of cooperation and loyalty among the group. One of the girls was married last year and continued to come regularly until her baby was born.

The work is done entirely by the girls; very often they prepare the entire meal from recipes and act as hostesses to instructor and guests.

The 4-H Basket Shoppe

How Home Demonstration Clubs of Clay County, Alabama, Made Plans for Economic Relief and are Working Out Their Plans

By J. E. S. Rudd

THE women of Clay County, Alabama are plain livers and high thinkers; their children attend schools and are given all the advantages and opportunities within reach of the family purse. But the women realized they must have extra funds if their families were to profit by the nutrition course given in their home demonstration clubs, and if the home improvement projects were to make much headway in added conveniences, comforts and looks. To secure any improvements at all required some money; and the cotton crops, chickens, eggs and milk money afforded no surplus for such indulgencies. All moneys from these went to pay for the biggest things and were exhausted before getting to the home improvement.

There are no factories or public works close by; but when the women learned how to make the pine needle baskets and that they could be marketed and the markets cultivated, they rolled up their sleeves and organized for cooperative selling.

From their Home Demonstration Council they selected seven directors to sit with their home agent and together plan ways and means of selling and getting suitable baskets fast enough to amount to a good business. A basket training school was held.

It was during the sale of their first baskets just before Christmas that the Agent met and secured the services of a trained sales woman with seventeen years selling experience, who began demonstrating baskets in stores through the cooperation of their owners and managers. She did this for several months and then began selling wholesale direct.

The baskets were assembled and stored in the home or residence of the home demonstration agent until the home could no longer accommodate them. They were removed to her office and the store rooms on the third floor of the county court house. The volume of shipping increased rapidly and the thundering of the hammers in crating for shipping echoed through the "Halls of Justice" unbearably and the sheriff was forced to come up to intercede for the other occupants of the court house.

Two merchants, friendly competitors, then invited the ladies into a large brick building on the south side of the square and paid their rent for them for one year.

The ladies employed a local manager for all time and named this centralizing point "The 4-H Basket Shoppe." Business increased, more salesmen were employed and the Shoppe now pays its expenses, including rent, and continues to sell cooperatively. There has been steady improvement in design and workmanship, style and beauty. Gaily colored, metal liners are used altogether in these baskets now. Sales have been made in almost every state in the Union.

Exhibits have been held at the Ninth National Flower and Garden Show in Louisville, Kentucky, The Sixth Annual Gift Show in Kansas City, Missouri, and many other places, including some state fairs. Over thirty thousand dollars worth have been sold since the beginning and all without one cent paid in capital or stock or shares sold. It has every bit been through cooperation from big business corporations, local business men, banks, newspapers, churches, the makers themselves, customers, and the State Extension Service.

The ladies receive every cent above actual cost of operation and have used their coin wisely for improving approximately one thousand rural homes, by putting in more conveniences, having more adequate clothing, more reading matter in the home, for religious purposes, tuition, doctor and dental bills, insurance, and too many other items to mention here. There is a gain in cheerfulness and optimism through this economic asset or interdependence.

"Cooperation is not a sentiment, but an economic necessity" someone has rightly said.

The "4-H Basket" business belongs to the women; it is not only owned but operated by them and for them. They are building upon faith, honesty, service, and dependability; they try to please their customers with a good, well made, artistic

article and have faith in their customers remaining customers. The long leaf yellow pine is rapidly disappearing and these baskets will soon be valued for their rarity as well as their beauty. There is a slip placed within each basket sold bearing instructions in care and cleaning, also telling how these baskets are made.

The Council is federated with the Alabama State Federation of Women's Clubs and feels that all other club women in the United States would like to have one or more of these baskets for themselves or friends, could they but get them placed upon the shelves of their local dealers. They could have their dealers write for samples and prices and lend a wonderful cooperation.

It takes vision and determination to execute plans, and courage to stay with a problem until it is solved satisfactorily. We believe any group of farm women can form a cooperative association with their State Extension Service to aid them and others to cooperate, and that they can market any standardized article made for service and beauty. But, there

is real work and hard work and the leader must not forget that. She has to be willing to suffer inconveniences and hardships a plenty, have unlimited patience, initiative and "sticability." She should have some knowledge of business principles and management.

The local manager should know shorthand and typing, be able to keep a neat set of books, figure quickly and accurately. She should also know the production end of her job and be able to use the score card for standards. She should be diplomatic but firm, courteous at all times and have an inexhaustible stock of patience.

Only experienced salesmen should be employed. It has proven too expensive dallying with the inexperienced. However, we believe an earnest, honest person can become a good salesman in a fairly short time if he is trained in applied pyschology and studies human nature closely. Then by keeping an open mind, a willingness always to work very hard and backed by an irrisistible, standardized, useful article, success is assured.

The Education of the Adolescent Girl

By Marianna Taylor, M.D.*

Boston, Massachusetts

ANYONE who is closely associated with the youth of today notices that certain characteristics and interests play a major rôle. The growing girl, as a general rule, often cares less at present for tradition and precedent than did the high school or college girl of her mother's generation. The average girl of today is frank, above-board, open, experimenting,—finding out for herself. She makes no apologies for uninhibited emotional life, does not pretend to be especially conventional—or rather convention is changing—and, as a rule, she is unrepressed.

The normal girls of about eighteen, who ply the woman psychiatrist with questions, are not dwelling morbidly upon their own deficiencies, for the most part, but they show a healthy group-interest and social-consciousness. They ask a great many questions on physiology and biology,—questions that, it would seem obvious, are deserving of full and adequate answers, and should properly be answered in a complete science or physiology course in High School. Such a course at present is rarely given.

And so these girls get information in any way that they can, as a usual thing misinformation, on the human psychology and emotional urges. Their questions show most naive and striking ignorance.

Naturally, instinctive problems are presenting themselves at this time of life with a new and unfamiliar, compelling force, and they must be met intelligently or blindly and ignorantly by a haphazard trial-and-error route.

Adolescents welcome scientific facts and explanations, and respond to information in a healthy, frank, usually wise way—expressing a great deal of appreciation and gratitude. Instead of developing morbid interests, their curiosity being satisfied intellectually, they are master of their own natures to a new degree, and they feel a responsibility born of the knowledge received. They are no longer the victims of unconscious impulses not at all understood and hence baffling.

Often-times a girl is failing in school work and suffering from inattention and inability to apply herself. On inquiry, one finds that she is preoccupied with questions that are incident to adolescence. When these preoccupations have been dealt with in a commonsense, unemotional, scientific fashion, her school work has come up to its previous level and her social adjustment has become far more adequate and normal than before,—for energy has been liberated. She can understand her impulses, and with help she evolves a more mature, better social outlook and an intelligent philosophy of life.

It is felt that girls should get certain information in the home, but how often can it be gotten there in a scientific, straight-forward, correct way? Is it not usually given emotionally and unintelligently? At any rate a large proportion of girls say their own families are the last persons to whom they could or would go. And this is not strange considering the morbid repression that has prevailed, and the undue emphasis upon the instincts, as very "holy" or very "animal,"—in either case placing them in a correct light. "Letting sex fall into its proper perspective should be an integrating influence in the development of a boy or a girl."

Some schools are pioneers in this matter, and where there have been courses in biology and physiology in which the reproductive system was included, instead of naively (?) expurgated, classes in which the students felt free to ask any scientific questions realizing that they would receive frank answers, the boys and girls have welcomed and profited by this sort of treatment of the subject.

Incidentally, moral, ethical, and racial principles can be discussed, and values, loyalties and goals considered.

Why should the High School physiology course not answer scientifically many important questions with which the adolescent is normally preoccupied?

*Abstracted from speech made at American Home Economics Association Convention, Boston, June, 1929.

The Story of The Coconut

By Hendrik de Leeuw, F.A.G.S.

THERE is an old Singhalese proverb that says "The cocospalm has ninety nine purposes; the hundredth will also be found." And when we consider the manifold uses of the coconut and its importance in the industrial life of today, and look back on the part it had in the past, we cannot doubt the truth of this saying. The average person, however, knows little of the coconut industry, or the many purposes served by the coconut and its by-products. The story is an interesting one and goes back many hundreds of years. Suppose we trace a bit of its history in far distant lands.

The original home of the coconut is unknown, but it is variously believed to be of Asiatic origin or a native of the West Coast of America. Columbus, in his ship's log, made some notations about the appearance of the coconut palm in the New World, and if we believe the narratives of the old Arab and Chinese navigators, the palm was known in the Dutch East Indies in the very old days. It is a well known fact that it was introduced into Malayo-Polynesia a long time ago and that it must have been brought there by man as an addition to the resources of the island world, just as some sixty years ago the African oil palm was brought to the Dutch East Indies from Africa. The coconut palm may have been introduced into Polynesia on account of the latter's poor vegetable wealth, and if we take it that the palm was indigenous to the Americas, it must have come westward across the Pacific and gradually found its place and its uses with the peoples of the islands of the Pacific. From Polynesia it traveled to New Guinea, thence to Malaya and so all over the Indian Archipelago.

There are over thirty varieties of coconuts that grow in the various countries, although planters recognize only about five—the King coconut, which is a pear-shaped nut of a bright orange color; second, a duller orange colored nut; third, one of a pale yellow color; fourth, a very rare variety about the size of a duck egg; and fifth, the common coconut of commerce, botanically known as the *Cocos Nucifera*. The tree is slender, the trunk generally unbranched and with a mighty crown of leaves. It grows rapidly and attains great heights—75, 80 and even 100 feet. All along the trunk are closely lying scars where the leaves have fallen off. About two of these form each year, so the age of a tree can be estimated by the number of these scars it bears. The leafy dome of a grown coconut palm has sometimes as many as thirty-five leaves, each leaf reaching a length of five to eight meters, or about fifteen to twenty five feet. The leaves are yellowish green to green in color, changing to yellow or brown as they develop.

The trees now grow in various parts of the world, thriving best where the temperature is between 75 and 80 degrees Fahrenheit, and where there is plenty of sunshine. We find them in the West Indies, in Ceylon, Malaya, the Philippines, parts of Borneo, in Java, the Straits of Malacca, Celebes, Sumatra, the Solomon Islands, Mexico, Central America, throughout tropical South America, British Honduras, Florida, Tahiti, Zanzibar, the Fiji Islands, Papua, New Calidonia and Madagascar.

There are few trees so widely distributed in the Indian Archipelago as the coconut palm, where it has long formed one of the most important staples. For instance, in the Dutch East Indies the coconut oil is used in its natural state as it comes from the dried flesh of the kernel, in the manufacture of nut butter, lard, soap, candles, as a lubricant and a luminant, and in the preparation of various cosmetics. Its coir, or husk, is used in the manufacture of rope, mats, matresses, fuel, brushes, okum and cables. The nut itself is used by confectioners, and is also dried for use as food. The copra residue that remains after the oil is pressed out is used for cattle fodder as it is rich in albuminoids, oil, and digestible carbohydrates.

The coconut shells make water dippers, drinking bowls, dagger handles, fish hooks, spoons, tapping cups for use on rubber plantations, gourds and linoleum.

The dust of the coir fiber is worked into a felt material that is used under carpets.

The bark yields a strong cohesive gum The stem is used in the manufacture of furniture and rafters. The husk is used for fertilizer, as it is rich in potash-phosphoric acid. The leaves make roofing material, mats, baskers and fodder for cattle. The green husks make a preserve, while the Javanese use the early seedling as a delicious vegetable. The roots of the palm are sometimes used for chewing in the same manner that the natives of certain parts of India use betel nuts.

It has been estimated that a native uses about sixty coconuts a month which provide him with board and lodging, as it were. In some regions in the Pacific a native's wealth is calculated by the number of coconut trees he owns. In other sections dowries of a number of healthy coconut palms are bestowed on prospective sons-in-law.

Centuries ago the coconut formed a main article of diet with every tribe in the south Pacific, and was a staple of vast importance in the life of communities which without the coconut palm would have been almost uninhabitable. For generations the fruit has given solace to hordes of tribes who have relied on it for food and drink, for cooking oil, for the twine that makes their fishing nets. Many regions, such as Polynesia, had very little natural vegetable sources and here the coconut made up for lots of its needs. The wood, stems, and leaves furnished building material for dwellings and boats, and for household implements; the oil gave light and fuel, while the nut, or the fruit itself had an equally wide variety of uses. Among the natives the fruit bears a different name in each stage of its development, and in each stage all parts have their use. If the nuts fall from the trees before they ripen, they are used for medicinal preparations. The more developed nuts possess a firm embedded kernel attached to the inner partition and tasting like a sweet almond; this is eaten raw or is boiled along with other food.

The fluid, which we call coconut milk, furnishes a delicious and wholesome drink. The pits of the unripe fruit are used to make an oil that is an indispensable article in the native household. Drinking cups, spoons and measuring cups are made from the hard shell of the nut, and the fibrous outer bark is beaten and used in the manufacture of torches and in the making of cord, mats and brushes. The flower fruit of the coconut is used in the making of a native palm wine that is known as Legen or Toewak; it also is used in the making of arak, yeast and vinegar. So has Dr. Van Gorkum described the many sided uses of the coconut tree for humanity, even if most for native humanity.

In our present day industrial life we make a large use of the cocos pits, or coconut, in the preparation of coconut oil. The dried pieces of broken coco kernels form an important commercial product known all over the world as copra. Copra serves as the basis for the manufacture of cocofat, while the pressed defatted copra forms a splendid food for cattle. The oil is an important ingredient in soap manufacture and in the making of cosmetics and toilet preparations, as well as margarines and vegetable butters.

Thus food, drink, clothing and shelter are all provided for by one tree. There is small wonder that primitives in many parts of the world held it in such high regard, or that present day authorities say that no other tree "renders a more signal service or has a higher commercial value" than the coconut.

Vitalizing Home Economics

By H. A. McLean
Bay Minette, Alabama

THE Baldwin County High School Home Economics Department was practically new when I came to Bay Minette, Alabama, two years ago. Although the health officer, county superintendent and a few leading citizens were eager for a school cafeteria they could offer little equipment, no funds and no assistance other than my home economics pupils.

My first undertaking was to create a sentiment for hot lunches, better food selection, balanced meals, improved health and consequently improved school work, by serving a hot soup with crackers, hot cocoa or lemonade, ice cream and whole milk as a special home economics project throughout the first year.

At the opening of the school in September, 1928, the county had made an addition to the building, allowing a separate room for a cafeteria, and also one for a dining room. The school employed one of my graduating home economics pupils as dietitian. My foods classes made a variety of attractive and well-planned posters which were displayed on the bulletin board of the cafeteria at various times.

During the first year we raised funds by securing "ads" for the local papers, and purchased a $225.00 electric range for our department. Since the cafeteria did not own a stove with an oven for baking pies, cakes, rolls, etc., my home economics pupils found pleasure in making delicious pies, cakes, etc., for sale in the cafeteria. In this work they learned many principles of successful baking and carried home to their mothers wonderfully thrilling stories of the beauty of their meringue, the crispness of their pastry, and the eagerness with which their fellow students purchased their individual pies, cakes, rolls, roast meats, etc. This automatic electric oven proved a popular asset, too, before Christmas when each pupil was permitted to bring the ingredients of a fruit cake, mix and bake the cake at school and carry it home to her mother.

Another seasonal variation which added zest to our program for the year was the handpainting of silk handkerchiefs for Christmas. The County Home Demonstration agent was invited to demonstrate the work. She was gracious in letting us borrow the necessary brushes, blotting paper, etc. The school furnished a $3.00 set of paints; so the cost to each girl was only for two nine inch squares of silk crepe. A number of the girls worked out original designs at home for painting handkerchiefs, scarfs, and dresses. I encouraged them to bring samples of their work to school "to show their teacher," for I believe that any home economics course which does not lead to the upbuilding of the home and the creation of a new interest in the personal improvements of the girl herself is fruitless.

Now that the school cafeteria is on its independent journey of self-improvement, baking its own pies, cakes, meats, etc., with the use of a large gas range, my home economics pupils will have the

H. A. McLean

advantage next year of the use of gas at small cost. Gas hot plates in the home economics department will be connected with the pipes leading to the gas range.

In our four unit-kitchens we will offer training in the use of electricity with the corresponding equipment in one kitchen, gas in another, the oil stove and fireless cooker in another, and the oil stove with waterless utensils in a fourth.

A project which I considered very valuable to our school as well as to my pupils in Home Management was the remodeling and refinishing of tables. The home economics department inherited some very long, heavy tables which the manual training department had made several years previous to that time, and which it discarded for equipment made especially for manual training purposes. My pupils and I had a cabinet maker to appraise the value of these tables, and to encourage us in "making them over." We learned that the bulkiness of the tables was due to the fine virgin quality and thickness of the heart pine of which the foundations were built, and that the poplar tops were twice as thick as were necessary; therefore many of the demarkations could be planed out, and the tops enameled. This we undertook with great fidelity—planing, sandpapering, and enameling the tops in buff to match the walls of the room, and using a mahogany stain for the legs and facings to match the wainscoting of the room. Thus we have a beautiful sewing room, the dominant interest of which is a tall, handsome, but second-hand mirror donated by our local Parent-Teacher Association, and the frame of which my girls cleaned and repainted in gold which beautifully harmonizes with the walls of the room and with the table tops.

In addition to a home project such as making a bed spread, table runner, pillow cases, etc., for their rooms at home, my pupils designed and made a complete luncheon set and napkins sufficient for twelve covers, together with center pieces and runners for the suite of walnut dining room furniture which recently had been purchased for our home economics department. We secured more advertisements, put on a play and sold candy at the play to pay for this furniture.

Indeed, we find frequent use for our newly equipped dining room which opens into the laboratory of our four unit kitchens. In addition to the entertainment of our County Child Welfare Board and of our County Board of Education, and the local Lions Club at formal luncheons, we also studied table setting and the serving of simple meals at home, giving a demonstration breakfast as a chapel program during the latter part of the course. Many pupils said that the only objectionable feature of the program was that all onlookers could not be guests at the table.

The building of a department of home economics and the vitalizing of its courses entails, on the part of the teacher, interest, courage, intelligence and executive ability along with the personality and power to create within her pupils that imagination and sincere longing to improve themselves, their homes, and their neighborhoods. The importance of re-creating in their everyday living the ideals of home economics cannot be over-estimated. In this age of crowded living conditions and lack of appreciation of the strategic importance of the home in maintaining the health of the family; in striving for the intellectual and moral development and stability of our children, in adjusting the economic and social relations of families one with another, the present generation needs serious and earnest training by the most competent instructors which it is possible for our nation to provide.

From the Cotton Fields to Your Sewing Table

By Nelson Jackson, Jr.

COTTON is a fibrous plant grown only in warm climates in many parts of the world. A cotton planter spends more months raising his crop than almost any other grower. In the southern part of the United States, where more cotton is grown than in all the rest of the world together, a planter prepares his soil from February to May and plants according to the probable frost date in his immediate section. The cotton seed is a hairy-coated shell that covers a kernel that is quite oily and palatable. This kernel is used to make cooking fats such as Cottolene, Snowdrift, Crisco, Wesson Oil, and other products used in making shortening and salad oil. It is often combined with olive oil for the sake of economy.

COTTON seed is very accurately pedigreed by skillful planters. A good planter knows the ancestry of his seed. Upland seed gives a staple fiber length about one inch more or less; long staple seed gives a fiber from 1⅛ to 1⅜ inches. Then there is very long fiber cotton grown along the lower Atlantic and Gulf coast. Cotton is graded so accurately that 1/32 of an inch difference will raise or lower the price, and skilled cotton buyers quickly detect this difference.

After length of staple is determined, the skilled buyer examines for grade. This covers the color, maturity, and cleanliness. Color is determined largely by the time at which the cotton was picked. Cotton that is picked promptly at full maturity is very white and soft looking—much like a powder puff. If picked prior to full maturity it has a glaze much like taffy; and it is damp and the fibers do not stand out independent of each other. Such cotton is badly damaged in the mill process as well as the ginnery process. Cotton left in the field after full maturity collects dirt from rains and winds, and gradually turns a bluish or grey color. It also becomes stained from soil spattering up from the rains. There is often a difference in value of $10.00 a bale between cotton picked at precisely the right time and cotton picked a little too soon or a little too late.

COTTON fibers are hollow, just like the hairs of your head! The hollow centers of the cotton fibers are filled with oil generated by the seed. This oil nourishes each individual fiber. If the cotton is left in the field unduly long, the hot days and cold nights of the fall dry out the natural oil and leave the fiber dry and crisp. This destroys the tensile strength of the fiber. The perfect fiber has a trace of oil inside. This trace of oil in perfect cotton gives to the yarn and woven cloth a creamy, yellowish color. In making yarn for cloth, the fibers are paralleled and gradually pulled out, making in each successive stage of manufacture a product of smaller diameter. Every fiber that fails to parallel, makes the yarn just that much weaker, for its breaking strength is lost. If a fiber turns back at its middle point, not only is its breaking strength impaired but in reality very much more. When yarn is pulled with the intention of breaking it, the cotton fibers do not really break, but instead merely slip. For this reason the longer the individual fibers and the better they parallel and lie against each other, the more pull it takes to cause this slipping.

Speed in the making of yarn is always to be desired from a manufacturing standpoint, but it is often carried to the point in many processes where it is very detrimental to the tensile strength of the yarn. In this one point the consumer often loses values that cannot be seen at the time of purchase but will show in actual wear—and all for the mere extra profit of the manufacturer. There is integrity in workmanship in the making of cotton cloth just as there is art in the painting of a picture.

FINISHING cloth, which comprises the cleaning of the woven cloth together with the bleaching and dyeing, always takes away from the cloth a certain amount of tensile strength. In olden times when cloth was bleached on the grassy lawn by direct sunlight, this loss did not appear because chemicals were not employed. Today all bleaching is a chemical process because this is the age of speed. The type of unbleached goods going into the finishing plant has a great deal to do with the final results. The thoroughness with which cloth is rinsed after each chemical process is of the utmost importance. Should any of this chemical remain in the cloth, it will tear down the fibers.

THERE are many ways of putting a finish on cloth, some of which are practically permanent and some lasting only until the first laundering. Mercerizing adds quite a little to the expense in finishing, but it does three things: it gives luster and eliminates to a great degree the surface fibers that give the cloth a shaggy appearance after laundering; it gives the cloth a much greater affinity for dyes, making the dyed cloth much clearer and more even in appearance; and it gives the cloth much greater tensile strength. A smooth appearance can be had without the expense of mercerizing, but it is merely a pressed finish and has no permanence.

Vat dyeing is a process that cannot be explained except in very highly technical terms. It is much like an artist mixing his paints for a certain effect; he cannot do exactly the same coloring every time, but he can get approximately the same effect. Vat dyes are not soluble in water and must be reduced for penetration. They do not penetrate as deeply as ordinary dyes, but when they are brought back to their insoluble state they then cannot be washed out, since the laundry water does not make them soluble. The dyeing of cloth in color elements by a process that guarantees the permanence of color without limitation of any kind costs seven times as much as to dye the same material by a short cut method. It is, of course, much to the consumer's advantage to be assured of fast color in cloth or trimming materials. In the making of our bias fold tape, the fabric is vat dyed and finished, then laid out, cut on a true bias, seamed, rolled, sliced, folded, pressed, inspected, measured, coiled, wrapped in cellophane, boxed, and shipped to all quarters of the globe.

Have you ever before imagined how many steps must be taken to bring cotton to your sewing table?

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces an open competitive examination: SCIENTIFIC AIDE (HOME ECONOMICS).

Applications must be on file with the Commission at Washington, D. C., by November 5, 1929.

A vacancy exists in the Bureau of Home Economics, Department of Agriculture in Washington, D. C. The entrance salary is $1,800 a year. The duties are to assist in making a study of the chemical composition of foods; examing records and reports and classifying, calculating, and recording data. Competitors will be rated on practical questions and on education and experience.

For information apply to United States Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at any city post office or custom house.

SUGGESTIONS FOR SEWING CLASSES

The group of articles shown above include children's dresses, a play suit, pajamas, lounging robe, and a luncheon set all simply made and trimmed with various colored bias fold tape. Such garments should offer many suggestions for high school sewing classes, especially with the holiday season approaching.

Suggestions for Marketing Classes

New Canned Foods Grading for Quality

EDITOR'S NOTE—*The following story shows what one of the largest packing companies has done to help clear up the question in the consumer's mind, "How can I know what grade of canned food I am buying?" We are publishing it because we believe that Home Economics teachers everywhere are interested in the subject and can help in establishing some unified system of grading by creating a demand for it.*

HOW to buy the different grades in canned foods has long been a moot question with the consumer. How could she know if she bought a can of peaches, for instance, whether the fruit would be the finest pack —uniform in size and color, packed in a syrup of unvarying richness—in fact, the finest fruit which can be grown, packed in the richest materials which science and good packing have demonstrated to be the very best; or whether it would be fruit of just as good quality, but not so carefully selected, perhaps in broken pieces, canned with a syrup not so rich? As a matter of fact, the consumer has not been able to know, unless she bought a widely advertised brand under the designation of "fancy pack" what quality of canned foods she was buying.

Fruit is, for the most part, canned in the three grades known as fancy, extra standard and standard. All three contain good fruit, but the first is the pick of the pack. Pineapple, the largest selling canned fruit next to peaches, is usually canned in these three grades by the big companies of Hawaii, which in the last ten years have made enormous strides in perfecting the canning of this fruit. And just recently the largest of them, the Hawaiian Pineapple Company, has made a further forward stride in progressive service to the consumer. It has answered the query so often put to it in writing by the tens of thousands of housewives who have tried its deliciously packed pineapple, and whose only fault found with it has apparently been the question: "How am I to know, when I purchase your pineapple, what grade is in the can?"

In order to answer this, we shall have to tell something of the merchandising policy of the company and of the many cans of pineapple, outside of their own widely advertised brands, which are packed by them and sold under dealer labels.

For years, because many grocers believed that the Hawaiian Pineapple Company, the president of which is James D. Dole, grows and packs the most delicious pineapple, they have bought this product and put it out under their own labels. In addition to the numerous labels of the company itself, its product has been going to the consumer under about a thousand other labels, all of them different, but with the product the same. Since many of the grocers and not a few of the consumers have wanted to know that they were buying not only Hawaiian pineapple, but that product put up particularly by the Hawaiian Pineapple Company, the company recently inaugurated the practice of stamping the name DOLE in the center of the round can lid. This identified the product as that of Dole's company and assured the consumer that she was getting the sun-ripened product which had been so extensively advertised, and which she had found from experience to be everything its packer claimed. It also enabled the grocer, though he sold the product under another label, to assure his customer that she was buying the particular product which she had found so satisfactory.

But still there was no way of telling the different grades, unless one bought the fancy brands put out by this company, which one knew by the brand name was the best pack. How could one identify the grades of the other pineapple, which was sold under so many different labels, fruit which is different not only in the syrup in which it is packed, but also in appearance and size? A housewife who bought a can of pineapple with the raised letters of the name DOLE on one end, sold under another label than the Hawaiian Pineapple Company's, took it home without knowing whether the fruit would be perfect and uniform in size and color, something which she could use in a dessert she was building not only for its deliciousness, but for its looks, or whether it would be less evenly cut than this perfect fruit, or even possibly in broken sizes, which might be excellent for salads, pies or made dishes, but which would not be so good if one was considering the appearance of the dish.

A great step forward has been taken by the Hawaiian Pineapple Company, makers of the DOLE pineapple, in a new numbering of not only the cans which appear under its own brand names, but those which are sold under the labels of other brands. Beneath the raised letters of the name DOLE now appear the numbers 1, 2 and 3, one number to a can, in this fashion: DOLE 1, the 1 appearing under the name on the can top almost directly under the letter O; DOLE 2, the 2 appearing under the name in the same fashion; and DOLE 3, the 3 appearing in exactly the same way.

Of course, DOLE 1 means the very pick of the pack, fruit of a uniform size and color, packed in the richest syrup of pineapple juice and cane sugar. This is fruit which is not only the most delicious in the pineapple line which can be purchased, but it may be used by the housewife for exhibition purposes if she wishes. This grade 1 comes in three forms, sliced, crushed and tidbits, each variety of which is uniform and perfect in regard to pick, cut, syrup and flavor. In fact, it is the very best pineapple to be had, and the housewife now knows it as she looks at the raised inscription DOLE 1.

DOLE 2, which also comes in sliced, crushed and tidbits, is fruit of a slightly less perfect character, less evenly cut, less uniform in color. It is pure, wholesome, sun-ripened fruit, just as delicious as far as the fruit is concerned as the first grade, but it is not so carefully selected and cut. It is packed in a syrup of pure pineapple juice and cane sugar, but the syrup is less sweet than that used in packing grade 1. Costing the housewife less, grade 2 has its distinct use and purpose in the household.

DOLE 3 contains merely broken slices, which are, of course, excellent for made dishes, and which are packed in the same syrup which is used for the 2 grade. This fruit is of the same sun-ripened quality as the other two grades, every bit as healthful and delicious, and costing less than the other two grades, has its own economic place in the household.

Could anything be simpler than this new grading of a canned food of such popularity as pineapple? And yet could anything be more illuminating to the perplexed housewife who cannot SEE the canned foods she purchases and who, therefore, must depend for grading on the packer, who in this instance has supplied the information with intelligence, thoroughness and progressive attention to a major marketing problem which should surely bring some imitators in other fields.

HAWAII'S SCHOOL CAFETERIAS

School cafeterias of Hawaii, started 10 years ago, are supplying 22,000 of the 70,000 public-school children with wholesome balanced lunches at 5 cents each. There are now 75 of these cafeterias.

For REAL Desserts and Salads

Use Real Fruits and Vegetables and Real Gelatine

Knox Gelatine is *real* gelatine, unmixed with flavoring, coloring or sweetening. You can combine it with fruits, vegetables, fish, meats, eggs—almost any food you have in the house. And whether you make a dessert, salad, loaf, aspic, candy or pie—you are making something whose flavor and appearance are *different—real!* You are making something original and wholesome, and it doesn't take much time or trouble either. Nor is it more expensive. *Actually*—there is enough gelatine in a package of Knox Sparkling Gelatine to make four different desserts or salads, *six* generous servings of each. Try these original recipes. And if you would like some Knox Gelatine to use in your work, mail us the coupon. We will gladly for your lecture work send you a quantity of Knox Gelatine and a complete set of our helpful literature.

ORANGE-BANANA CREAM (6 Servings)

1 level tablespoonful Knox Sparkling Gelatine
¼ cup cold water
4 bananas
1 orange
1 tablespoonful lemon juice
1 cup cream, whipped
Few grains salt
¾ cup powdered sugar

Soak gelatine in cold water about five minutes. Dissolve over boiling water. Mash bananas, add fruit juice and a little of the grated rind of the orange. Beat in dissolved gelatine and sugar, and fold in cream whipped very stiff. Turn into wet mold. Unmold and garnish with orange slices.

TUNA FISH, SALMON or CRABMEAT SALAD (6 Servings)

1 level tablespoonful Knox Sparkling Gelatine
¾ cup boiled salad dressing
½ cup celery, chopped
2 tablespoonfuls chopped olives
½ green pepper, finely chopped
1 cup tuna fish
¼ teaspoonful paprika
¼ cup cold water
2 teaspoonfuls vinegar
½ teaspoonful salt
Few grains cayenne

Soak gelatine in cold water about five minutes, and add to hot boiled salad dressing. Cool and add tuna fish, separated into flakes, celery, pepper (from which seeds have been removed), olives, salt, paprika, vinegar, and cayenne. Turn into wet individual molds and chill. Remove from molds to nests of lettuce leaves, and garnish with slices cut from pimolas, diamond-shaped pieces cut from green peppers, celery tips and watercress.

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GREEN SALAD (6 Servings)

1 level tablespoonful Knox Sparkling Gelatine
½ cup cold water
½ cup boiling water
½ cup blanched almonds
½ cup sugar
¼ cup mild vinegar
½ cup stuffed olives, sliced
Green coloring
Few grains salt
½ cup small sweet cucumber pickles
½ cup sliced pineapple (canned)

Soak gelatine in cold water about five minutes; dissolve in boiling water and add vinegar, sugar and salt. When it begins to stiffen, add remaining ingredients. Pickles should be sliced thin, almonds chopped. Turn into wet individual molds. When firm, unmold on lettuce and serve with mayonnaise.

TURKISH DELIGHT

2 level tablespoonfuls Knox Sparkling Gelatine
½ cup cold water
½ cup boiling water
2 cups granulated sugar
Juice of one lemon
Juice of one orange
½ cup chopped nut meats
Grated rind of one orange
Red coloring

Soak gelatine in cold water about five minutes. Put sugar and boiling water in saucepan, bring to the boiling point, add soaked gelatine and let boil twenty minutes. Add flavorings and coloring, strain, add nut meats and turn into a bread pan (first dipped in cold water) to one inch in depth. Let stand until firm, remove to board, cut in cubes and roll in powdered sugar. The nut meats may be omitted.

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A "Red Letter" Lesson on Salads

By Ethel Sunderland
Thomas Jeeffrson Jr. High School, Cleveland, Ohio

IN the Junior High Schools of Cleveland, Ohio, the children are grouped into sections according to their mental ability. These groups are classed as X, Y and Z. The X group ranking the highest, and the Z lowest. In addition to these, we have in some schools another classification known as the Enrichment class. Pupils in these classes are gleaned from a much wider area than the junior highs, and all show exceptional ability along all lines. A sum of money has been donated to the development of the enrichment classes by a Cleveland citizen, and special teachers have been obtained for them. The class numbers run small.

A "Red Letter" lesson is one that sums up a unit of work, which in turn is a plan in which several lessons pertaining to the same subject are taught. "Red letter" lessons have become an integral part of the school program at Thomas Jefferson Junior High School that they are no longer considered a novelty.

The instructor, writing this article, to date, has worked with all the different groups organized within the school, i.e., x, y, z and enrichment classes, in presenting such a lesson.

The problem at hand is, which one of these groups consumed the most time and expended the most effort to put such a program across.

Before planning the unit on salads, Dr. Edward L. Thorndike was conferred with. This is the question that was put to him. "Which group is considered the more diffcult to teach—a small group of children having a high rate of intelligence or a large group that are very much retarded intellectually?" Dr. Thorndike considered the large retarded group much harder to teach.

The lesson described was given by an 8A Enrichment class consisting of twelve girls. Every member took part. There was no rehearsal. The children wrote their papers in class and committed them to memory. The salad lesson was a unit that was presented in a series of five lessons. This was the organized plan:—

Lesson 1. Salad dressings.

Lesson 2. The planning of an original salad.

Lesson 3. Preparation and serving of the original salad.

Lesson 4. Topics and work assigned to the class for the "Red Letter" lesson.

Lesson 5. The "Red Letter" lesson. Salads.

One of the pupils acted as chairman This is the program presented.

1. The characteristics of a good salad. Talk.

2. The place salads hold in the diet. Paper was read.

3. Preparation of cooked, French and mayonnaise dressings. Demonstrations.

4. Preparation of artistic salads versus the grotesque. Demonstrations.

5. Olive oil, mazola and Wesson oil. Talks.

While the Home Economics Department afforded useful data the children found the school library rich in information. The last three talks were accompanied by exhibits and charts in order to make the lesson more graphic.

More than twice the amount of time was found necessary to present a "Red Letter" lesson given by a "y" group of thirty-two girls than an "enrichment" group of twelve. It is a difficult matter to try to meet a large group after the close of school. So many outside interests prevent the members of the class meeting as a whole that time has to be taken from the regular lesson.

The children of the "y" and "z" groups have a very limited vocabulary. Most of them are of foreign extraction once removed. A few are foreign born while the "enrichment" children mostly come from American homes. Their environment differs from the "y" and "z" groups. These children not only are slower mentally but they hear the proper use of English only while in school.

The organization of a junior high school is such that it places a strain physically and mentally on the average child. The hours are long and mostly confining. The curriculum of the school varied. The personality of the different instructors has to be met with and adjustments made if there is to be harmony.

One small girl, during the first weeks of junior high school life, came home every night dissolved in tears, because she could not find her way around the school.

AMERICAN DIETETIC ASSOCIATION

The twelfth annual meeting of the American Dietetic Association is held this year in Detroit, October 6-11. Speeches are scheduled by Dr. Walter C. Alvarez on "Mechanics of Digestion," by Professor Wm. Henderson of Michigan State College "Science and The Changing World," by Dr. Newburg of Michigan State College on Obesity and Dr. Woodyat of Rush Medical College on Diabetes.

The Program of Work

The new school year is here. As you think back over last year's work, do you think of the things you might have done had you started soon enough. At the beginning of the year you are enthusiastic and eager to make it a most successful year. In making out your plan of work for the year, place emphasis upon the early contacts which should be made. A great deal depends upon the contacts made by the teacher not only with the parents of her pupils, but with every agency in her community which deals with homemaking and good citizenship. Calls made upon the parents of the girls early in the school year, telephone chats, informal friendly form letters describing the work of any given course, teas or Mother's afternoons are all means of acquainting the parents of the year's program and to secure their cooperation.

The Home Economics Department is often judged, and rightly, so by the appearance of its laboratories and teachers. Good ideals of homemaking cannot be taught unless they are exemplified in the homemaking rooms. The Department should be attractive and homelike. Crisp clean curtains at the windows, a bowl of flowers, a potted plant, an interesting piece of pottery, systematically arranged, magazines, clean covers upon the ironing boards, neatly arranged cupboards and storage places all give evidence of good housekeeping.

The Home Economics teacher must not only teach her subject but she must live it. Her manner, dress and bearing must be in accord with the principles and processes which she teaches. She should wear an attractive, well-fitting uniform when teaching food classes. You cannot expect the girls in the class to dress in uniform unless the teacher applies the same rule to herself. It is well to allow the girls to determine upon the style, color, and type of uniform to be worn, and also to decide whether the uniform should be made by themselves or purchased ready-made.

Checking the inventories left in the department with the equipment, reference material and illustrative material should be done either before or during the first week of school. Becoming acquainted with the material in the high school library is another important early task for the teacher. It is only after this is done that the teacher can intelligently select and order the needed equipment and reference material.

If there is a need for a Home Economics Club, the club should be organized during the first month of school. The club furnishes an excellent opportunity for informal or indirect instruction along many lines. Bulletin 41, Home Economics Clubs in Illinois published by the State Board for Vocational Education will furnish you with many suggestions and helps for club organization and work.

In organizing the work of your department, do so on a business-like basis. If economy and good business procedure is to be taught the students then economy and sound business methods must be used in the carrying on of the business of the department. Take the girls into your confidence, allow them to help in planning the budget, in making the expenditures and in checking the accounts and expenditures with the budget throughout the year.

Planning your program of work is a real challenge. It affords you an interesting adventure.

Ellen H. Richards, one of the founders of the Home Economics movement left this message for her students:

"Control the material things which lie about you and make natural and social forces do your bidding, in order that you may have time and energy to make life beautiful and gracious and worthwhile."

You, as a Home Economics teacher of 1929-1930, can do much to make life in your community beautiful and gracious.

Mrs. Coolidge Says:—

"EVERY girl should be taught to sew, not merely for the sake of making something, but as an accomplishment which may prove a stabilizer in time of perplexity or distress. Many a time, when I have needed to hold myself firmly, I have taken up my needle; it might be a sewing needle, knitting needles or a crochet hook—whatever its form or purpose, it often proved to be as the needle of the compass, keeping me to the course. I look for a revival of the homey household arts. Such a revival may not bring about the peace of nations, but I firmly believe it will aid in bringing peace within our homes, and this will be more far-reaching than we realize."

Quoted with permission of Mrs. Calvin Coolidge and the American Magazine.

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Odds and Ends

Lecture Courses at the Metropolitan Museum of Art

The recently announced lecture courses to be given at the Metropolitan Museum of Art for the season 1929-1930 offer much of interest to teachers and students who are within reach of that institution. There are courses to fit all tastes and inclinations; home economics teachers will be especially interested in the study hours and lectures on a number of practical subjects that are conducted by Grace Cornell, Associate Instructor and that are planned to demonstrate the principles which underlie standards of taste and to show the use of the Museum collections in developing a consciousness of art as a factor in every day, practical life. Among these are a group of lectures for home makers, for young girls and teachers. Special arrangements are made for lectures for groups of students who are interested in the various phases of art. Many of the courses are free and for others a very nominal fee is charged.

The College of Fine Arts of New York University

The College of Fine Arts of New York University has announced a new department of costume design instruction which begins this semester. Here students will be given a background of practical experience by contact with stores, theatres and style publications, so that present day needs and problems of the profession can be worked out in classroom theory and by practical experience. This plan is in line with the College of Fine Arts' policy of bringing about a close alliance between its courses and the many professions and trades centering in the city, and thus foster "art-in-trade."

Child Welfare Activities in Argentina

Free lunches for the school children of Buenos Aires are planned by the municipal authorities. It is estimated that more than half of the 250,000 primary-school children in the city come from poor families and do not get sufficient or nourishing food.

A vacation camp in the mountains for the children of poor families is to be established by a Buenos Aires committee organized to provide vacations for such children. Boys and girls of normal health and conduct, and of any nationality and class or religion will be admitted. Special attention is to be paid to games and athletics.

World Friendship Among Children

At the end of next year Filipino children will receive from the children of the United States decorated "Friendship Treasure Chests" containing articles —including at least one book—which the children of this country like and which they believe their little Filipino friends will enjoy. Directions for filling and sending the boxes will be issued by October 1 of this year by the Committee on World Friendship among Children, 289 Fourth Avenue, New York City; the latest date for returning the boxes to that address will be August 1, 1930. The treasure chests will be forwarded to the Philippines in time to be received officially on December 30, 1930, which is the national holiday in honor of Rizal, the Filipino patriot.

The Committee on World Friendship among Children has already brought about a number of friendly contacts with children of foreign nations, two of its most important enterprises being the sending of "Friendship Dolls" to Japan in 1927 and of "Friendship School Bags" to Mexico last year. The children of Japan made a graceful acknowledgement of the dolls received by sending to the children of this country the following year a number of dolls beautifully dressed in formal Japanese costumes. This time the committee has chosen a group of children who are under the protection of the United States.

Research in Dry Skim Milk

The experimental stations of three states have engaged, or are now engaged, in researches in dry skim milk and its use in the human diet, according to a survey just completed by the American Dry Milk Institute.

In Vermont, the station at Burlington is at work on investigations of dry skim milk in infant feeding.

At Winthrop College, in South Carolina, dry skim milk is being used in test diets.

At Ithaca, New York, the College of Home Economics reports that it has completed a project on the use of dried milk as a supplement to fluid milk.

These projects, the survey indicated, are indicative of a growing nation-wide interest in the possibilities of dry skim milk for various uses. In all, some twenty-two state experimental stations throughout the United States have been or are now engaged in researches in dry skim milk.

Mental Hygiene Clinics

A recent bulletin from the Children's Bureau in Washington, D. C., states that:

Connecticut has added a full-time psychiatrist to its bureau of mental hygiene in the State department of health, which will expand its program to include child-guidance work.

The New Hampshire State Board of Health held its first behavior clinic at Durham, June 5, in connection with the regular child-health conference for babies and children of preschool age. The parents showed very great interest in the behavior clinic, and the board of health is planning to hold similar clinics in all parts of the State in connection with the child-hygiene work.

Washington, D. C., has taken the first steps toward the foundation of a full equipped child-guidance clinic for the study, examination, and treatment of patients under 17 years of age. It will also sponsor a program of lectures, conferences, and clinical staff meetings for workers in social agencies cooperating with the clinic.

Indiana University has organized a full-time child-guidance clinic as a result of the demonstration clinic conducted in Indianapolis by the Commonwealth Fund and the National Committee for Mental Hygiene, both of New York. The clinic will care for the child patients in the hospitals of the university who need psychiatric treatment, and for children brought by their parents or referred by social agencies, courts, schools, and physicians. It will have the advantage of connection with various departments of the university for special services, and university students will be able to obtain through it instruction in the theory and practice of mental hygiene and psychiatry.

Why Sleep? Sleep Helps Children Grow

This little folder on sleep issued recently by the United States Children's Bureau calls especial attention to the importance of longer hours of sleep for the adolescent boy and girl, 13 to 15 years of age, than are needed by children a year or two younger. Every one knows the importance of prolonged sleep for babies and young children, which is necessitated by their very rapid growth; but many parents are unaware that the rapid growth and development of adolescence increases the need for sleep, and that children at this period are often listless and unable to concentrate on their lessons simply because they do not get the extra sleep they need.

Vocational School for Women, Canton, China

The first vocational school for women in China was opened in Canton late in 1928 by the Young Women's Christian Association. This experiment has back of it the conviction that only through economic independence can Chinese women escape the afflictions of forced marriage, secondary wives, and easy divorce. The school opened with 50 pupils, and the number has steadily increased.

Books for Parents and Teachers

TWENTY-SEVEN books have been added to the Selected List of Books for Parents and Teachers compiled by the Child Study Association of America, and issued in pamphlet form.

This supplement may be had for $.05. It is an annotated list containing books on Adolescence; Biology and Anthropology, Heredity and Eugenics; Child Study, Education; Exceptional and Unadjusted Children; Physiology; Psychology and Sociology; Survey; Religion and Ethics.

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Biological Food Analysis Demonstrated in Dietetics Class

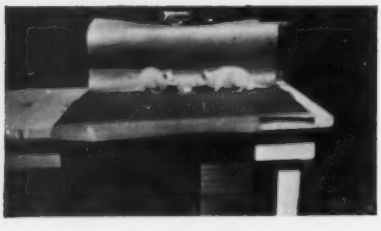
By Eleanor Dosch and Lorna McDonald
Mills, College, California

TWELVE white rats about 30 days old came into possession of the Dietetics Class and for two days were fed a diet of graham bread, milk and egg. It was then decided to use four of them to demonstrate the effect of Sherman's Salt, milk, and wheat diets (1); and the rest to demonstrate the effect of vitamin B deficiency, and later to test yeast, tomato and raw liver as sources of the vitamin.

One pair of the rats, to be used as controls, were maintained on a mixed diet of yellow corn meal, rolled oats, cracked wheat, ground round steak, salt, and dried milk powder, and odds and ends from the laboratory foods supply.

Sherman's Milk and Wheat Diets

The diets used were patterned after those of Sherman, but differed slightly in that shredded wheat was used instead of the ground grain. Two rats received this optimum diet of 2/3 wheat and 1/3 powdered milk (Klim), while the other two were fed 5/6 wheat and 1/6 powdered milk.



At the end of 37 days weight records demonstrated there had been little difference in the efficiency of the diet with 1/3 milk as compared with the general mixed diet insofar as the male rats were concerned; the female rat on the mixed diet weighed 15 gr. less than the one getting the optimum milk diet when the experiment started, but at the end of 37 days it had gained enough to be 24 gr. heavier than the latter. During the last four days of the experiment both milk and wheat fed groups failed to gain appreciably while those on the mixed diet continued to gain at the previous rate. Never at any time did the rats which received the smaller quantity of milk weigh as much as those on the optimum milk and wheat diet.

The rats serving as controls were the smallest of the group of twelve when the experiment was started, but in spite of this their growth was the most rapid, and the remark was frequently made that their general appearance was better than those on the 1/3 milk diet.

Vitamin B Deficient Diet

This diet was made up as follows:

Casein	18%
Osborne and Mendel's salt mixture	4
Butter fat	8
Cod liver oil	2
Starch	65
Agar agar	3

The six rats on this diet grew slowly at first and then either ceased to gain or actually lost weight. At the end of 18 days they appeared stunted and rough as to coat, and they were divided into three groups of two each. Group A received two-tenths of a gram of yeast daily; Group B a like amount of fresh tomato; while the same amount of raw liver was given Group C. Little change in the weights occured after 12 days of this supplementary feeding even though the quantities of the supplementary foods were doubled after the first 7 days, and it was decided to give them all the mixed diet in order to determine whether or not the ability to grow had been lost.

As soon as the six rats received good food they began to grow at an exaggerated rate, demonstrating the fact that the growth impluse was still uninjured. It was not possible to continue the experiment long enough to learn whether they would reach the weights of the control

Please allow some other Home Economics Teacher to read this letter and use this coupon

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Our editorial program is laid out especially for the teachers of Home Economics, and with the wonderful cooperation we receive from the teachers themselves, each issue is in reality a monthly exchange of ideas and plans.

We start off our service to you this year with the School Opening number--an issue packed full of good material, including a list of commercial helps which manufacturers put out especially for Home Economic teachers. This service has become an institution in the teaching field.

And then we give, month by month, articles on all phases of Home Economics work--club ideas, vocational opportunities for home economics trained girls, teaching plans for school and extension classes, etc. In other words, we offer you the best we can gather in this important and rapidly developing field.

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rats, but the startling rate of growth as soon as they were furnished with a mixed diet illustrated something of the strength of the growth impulse when not held down by deficient food.

The accompanying picture shows one of the male rats which had received the vitamin B deficient diet for four weeks and a litter mate which had been on the mixed diet. It demonstrates clearly the effect of food on the size of an animal.

As a whole the feeding experiments demonstrated effectually the role of food on the health and size of an animal.

(1) Sherman, H. C. and Campbell, H. L.: Growth and reproduction upon simplified food supply: IV Improvement in nutrition resulting from an increased proportion of milk in the diet. J. Biol. Chem., 1924, 60. 5.

PAMPHLETS RECEIVED

"A Selected List of Books for Parents and Teachers." Supplement, 1929. Selected and compiled by the Parents' Bibliography Committee of The Child Study Association of America. Price 5 cents.

"Program of the Lectures, Conferences and Study Groups of The Child Study Association of America."

"Statistical Report of Infant Mortality for 1928 in 729 Cities of the United States." Published by American Child Health Association.

HAVE YOU SEEN?

"The Sewing Book"

By BLANCHE E. HYDE, clothing specialist, Colorado Agricultural College. A practical study of materials and processes presented in a teachable form, profusely illustrated. Octavo, 348 pages. Price, $2.50.

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By HELEN A. BRAY, Assistant Professor of Textiles and Clothing, Texas State College for Women. This concise and clearly written discussion presents all the information required for an intelligent selection, purchase, and use of textiles. Octavo, 236 pages, illustrated. Price, $2.50.

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"NUTRITIVE VALUE OF ICE CREAM." By L. S. Palmer, Ph. D., University Minnesota, St. Paul, Minn. Reprint from American Journal of Public Health, June, 1929.

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¼ *cup Argo or Kingsford's Cornstarch*	4 *teaspoons baking powder*
	¼ *cup Mazola*
¾ *cup milk*	

Sift together the dry ingredients, stir in the Mazola and enough milk to make a dough of the right consistency to roll out. Roll to one-half inch thickness, slash in the center and put on the pie. Moisten the edges and put a strip of the dough around the top to seal the pie, or cut it in biscuits, putting them on top of the pie, as close together as possible.

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What Schools Do to Improve Homes

AMERICAN Education Week is observed each year during the week that includes Armistice Day. It is sponsored jointly by the American Legion and the National Education Association. It begins on Monday and ends on Sunday. This year will be the ninth in which this week has been observed. The program for 1929 is built around the seven cardinal objectives of education as follows:

Monday, Nov. 11—Armistice Day: Education for Faithful Citizenship

Tuesday, Nov. 12—Home and School Day: Education for Worthy Home Membership

Wednesday, Nov. 13—Know Your School Day: Education for Mastery of the Tools, Technics, and Spirit of Learning

Thursday, Nov. 14—School Opportunity Day: Education for Vocational and Economic Effectiveness

Friday, Nov. 15—Health Day: Education for Health and Safety

Saturday, Nov. 16—Community Day: Education for the Wise Use of Leisure

Sunday, Nov. 17—For God and Country Day: Education for Ethical Character

Many schools prefer to emphasize a special theme in connection with American Education week each year. The National Congress of Parents and Teachers is stressing the theme of "education for worthy home membership," a topic that forms the basis of the program for Home and School Day in the program given above, and one that is particularly fitting for observance in any movement such as this that tends to focus the attention of the entire nation upon education for a definite period.

In its permanent platform the National Congress of Parents and Teachers visualizes the factors which contribute to a worthy home as follows:

The Congress believes that the ideal home should be economically sound, mechanically convenient, mentally stimulating, artistically satisfying, socially responsible, spiritually inspiring, founded on mutual affection and respect, a place of unselfish love and service.

The school works on the constructive side of home improvement. It asks: *What is right with the home?* By its effort to make the best home practice universal it raises the level of home life. Every constructive activity of the school helps the home. Whatever builds better human beings makes better fathers, mothers, wives, and husbands. By its emphasis on intelligence, goodwill, the use of facts rather than authority as the basis of decision, the school contributes much to home life. It inculcates responsibility, honesty, self-reliance, courtesy, broader interests, appreciation of beauty, and careful choice of vocation.

Through the teaching of physics, manual training, wood working, home planning, home design, the school directly contributes to a more effective arrangement of the home plant. The standards of home equipment and furnishing which have been developed in the schools of homemaking are being adopted in thousands of homes.

The school establishes habits of learning and magnifies the spirit of learning. It encourages investigation and study. It fosters discussion of common problems. It arouses a wide variety of interests. It creates ambitions and encourages effort. It builds sound habits of mental hygiene. It gives attention to current events, beautiful music, architecture, painting. It studies our vast heritage of philosophy, literature, history, and science. It teaches the use of books and libraries.

The school builds individuality and personality. It helps the child to discover and perfect his talents. It teaches self-respect and respect for others. It is founded on a high regard for individual worth. It gives practice in sacrifice and loyalty. It encourages worthy friendships. American civilization with its free schools places a high value on the individual.

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